



# Reducing the Risk of Heart Disease and Stroke

A Six-Step Guide for Employers





## **The Business of Heart Disease and Stroke Prevention**

Heart disease and stroke, the principal components of cardiovascular disease, are among the nation's leading causes of death and disability and the most expensive medical conditions for businesses.<sup>1,2</sup> Employees at risk for heart disease and stroke can raise the cost of doing business. The costs of absenteeism, workers' compensation, health benefits, and low productivity all inevitably impact your bottom line.

This six-step guide will show you how you can reduce costs by investing in worksite health promotion and negotiating with health plans to cover preventive services. It will also give you steps on how to get started.





# 1. Recognize the costs

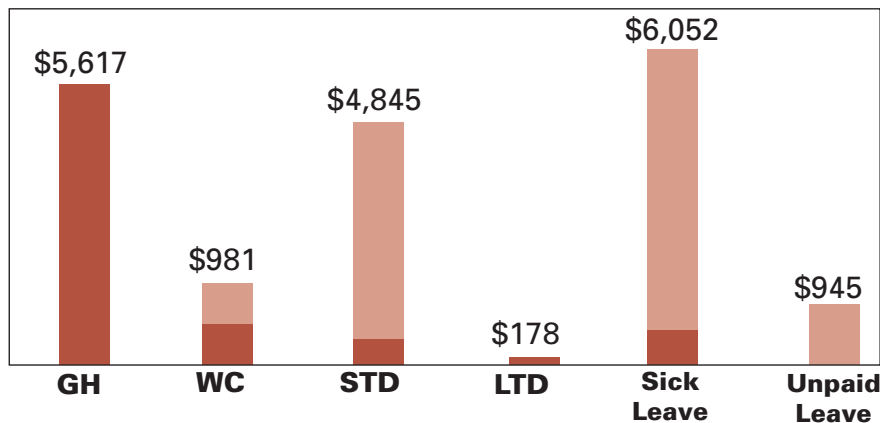
Heart disease and stroke are the leading causes of death and disability and a source of major costs to employers. Consider the following facts:

- In 2002, employers paid an average of \$18,618 per employee for all costs related to health and lost productivity<sup>3</sup> as shown in the graph below.
- Four of the top ten most expensive health conditions to U.S. employers—high blood pressure, heart attacks, diabetes, and angina pectoris (chest pain)—are related to heart disease and stroke.<sup>4</sup>
- In a study involving more than 46,000 employees from six large U.S. companies, employees at high risk of heart disease and stroke had significantly higher health care expenditures (228% higher for heart disease and 85% higher for stroke) than subjects who were not at risk.<sup>5</sup>
- In an analysis of insurance claims for about 4 million individuals covered by benefits plans of large U.S. companies, the annual mean payment for those with heart-related health care claims was over \$4,000 per patient, more than double the average payment of over \$2,000 for all other conditions.<sup>6</sup>

## Fast Facts: Heart Disease and Stroke

- Heart disease and stroke represent major costs to employers. The cost of heart disease and stroke in the United States in 2005 is estimated at \$393.5 billion.<sup>2</sup> Because of the aging baby-boom generation, these costs are expected to increase by 2010.<sup>2</sup>
- Heart disease and stroke are the **first** and **third** leading causes of death in the United States, accounting for nearly 40% of all deaths, an average of 1 death every 34 seconds.<sup>2</sup>
- Cardiovascular disease claims about as many lives each year as the next five leading causes of death combined, which are cancer, chronic lower respiratory diseases, accidents, diabetes, and influenza and pneumonia.<sup>2</sup>
- Employees with multiple heart disease and stroke risk factors—high blood pressure, high cholesterol, tobacco smoking, lack of exercise, poor nutrition, and high stress—will cost employers more money in terms of health care, absenteeism, and overall productivity than employees with one or none of these risk factors.<sup>5,7</sup>

**Average Health Care and Lost Productivity Costs per Full-time Employee per Year for 88 Companies in the U.S., 2002.<sup>3</sup>**



**TOTAL = \$18,618 PER YEAR**

### FIGURE 1 LEGEND

■ – Health Care Costs

■ – Lost Productivity Costs

GH – Group health (employees and dependents)

WC – Workers compensation

STD – Short term disability

LTD – Long term disability

Unpaid leave (incidental absences) – unpaid leave associated with an employee's or dependent's serious health condition, as permitted under the Family Medical Leave Act

## 2. Discover the savings: Reducing risk factors for heart disease and stroke saves lives and money

Many of the risk factors for heart disease and stroke are preventable or can be controlled. Worksite strategies can lead to real cost savings for a company. A review of 42 studies showed that worksite health promotion programs can lead to more than 25% reductions each in absenteeism, health care costs and disability/workers' compensation costs.<sup>8</sup> Here are some other examples:

- Comprehensive worksite health programs focused on lifestyle behavior change have been shown to yield a \$3 to \$6 return on investment (ROI) for each dollar invested. It takes about 2 to 5 years after the initial program investment to realize these savings.<sup>9, 10, 11</sup>
- An independent review of nine businesses investing in health and productivity management initiatives found the ROI estimates ranging from \$1.40 - \$4.90 in savings per dollar spent.<sup>9</sup>
- One study showed a \$2 or more reduction in health care claims among hypertensive employees per dollar spent on implementing a hypertension control program at the worksite.<sup>12</sup>
- A 2003 actuarial evaluation of one large U.S. company estimated savings of \$547 for each patient with a prior heart or stroke condition whose blood pressure was being controlled.<sup>13</sup>

### **To look at how you can save on health care costs, start by answering the following questions:**

- What is your company's absenteeism rate?
- What are your company's total health care costs (including short-term disability and workers' compensation)?
- Over the last five years, by what percentage have your health care costs increased?

If these costs are affecting your bottom line, consider investing in high quality comprehensive heart disease and stroke prevention programs and services, which are proven to save businesses money and improve employee health and productivity.

*“More businesses need to recognize that poor health means lower productivity and higher health insurance costs. Smart business leaders increasingly are finding that it is the right decision to promote health, education, physical activity, and preventive benefits in the workplace.”*

Tommy Thompson,  
Former Secretary of Health and Human Services

### 3. Learn from other employers





# 4. Improve cardiovascular health and prevent heart disease and stroke at the worksite

*“Our wellness program moved from being the right thing to do, to putting our company at a competitive advantage. Our leadership understands this program will help keep health care costs down.”*

Susan Tufts, Employee Wellness Program Manager, LL Bean, Inc.

Offering employees health information is not enough to spur healthy lifestyle changes. A comprehensive health promotion program that includes sustained individual risk reduction counseling for employees and lower-cost policy and environmental interventions is the most effective approach to support healthy lifestyles and prevent heart disease and stroke.<sup>18, 19, 20</sup>

A successful cardiovascular health program includes the interventions and organizational factors listed below. It is essential to assist high-risk individuals so they become healthier and more productive employees. This will also result in substantial savings to the health plan and to the company's bottom line.

Regardless of size, your company can take steps to create a healthy workplace. You do not need to invest in high-cost facilities or programs to be successful. Find an approach that fits your company and use the free resources in your community to help your company get started. (See Step 6 for more information).

## **A Plan for Action at the Worksite<sup>21</sup>:**

1. Establish needs and interest via survey.
2. Obtain leadership support and communicate it to employees.
3. Focus on high-cost/high-risk heart disease and stroke.
4. Form a health promotion team.
5. Commit to an established cardiovascular health program.
6. Identify resources to sustain the program over the long-term.
7. Set a calendar of events to initiate the process.
8. Evaluate the program to improve health outcomes.

## **Keys to program success** <sup>8, 22, 23, 24</sup>

- Senior management commitment and buy-in from middle managers.
- Medical and human resources support for the program.
- A champion and a committed health promotion planning committee or team.
- “Healthy company” messages and an environment that supports healthy lifestyles.
- Frequent and regular contact with employees throughout the organization.
- Linkage and integration with human resources and other employee benefits.
- Access to a wide variety of health promotion programs and services.
- Incentives to motivate employees to participate in the health promotion programs.
- Effective targeting of high-risk individuals.
- Cardiovascular health promotion program goals linked to business objectives.
- Effective planning, continuity, and follow-through on all program activities.
- Ongoing evaluation that reports on health and quality of life improvements, cost reductions, and ROI goals.

## State-of-the-art worksite interventions 8, 14, 18, 19, 20, 25

- Health risk assessments and medical screenings to identify and refer high-risk employees for treatment.
- Follow-up one-on-one risk factor education and counseling. This component contributes the most to helping individuals control their risk factors.
- Monetary and other incentives to motivate employees to participate in programs and comply with prevention and treatment measures (e.g., gift cards, lower health insurance premiums, tuition reimbursement, pedometers, discounts to gyms).
- Diverse worksite and community health education classes, workshops, support groups, and web-based tools with individual goal setting (e.g., CPR and automated external defibrillators (AED) training, high blood pressure, cholesterol, and diabetes control, tobacco cessation, healthy cooking and eating, weight control, physical activity).

## Lower-cost policies and environmental interventions to reinforce healthy behavior 8, 14, 18, 19, 20, 25

- Consistent and frequent heart and stroke prevention messages to employees throughout the organization (e.g., posters, memos, newsletters, memos, e-mail, websites).
- Accessible blood pressure monitors and AEDs.
- Heart-healthy and low-cost cafeteria and vending machine foods and beverages with point-of-purchase nutrition information.
- Smoke-free policies (e.g., smoke-free campuses, smoking bans in company vehicles).
- Policies to allow employees to use work time for health promotion activities.
- Clearly marked walking paths and accessible places to exercise; walking programs.
- Signage to encourage stair use.
- Mentoring programs with employees who have made successful heart-healthy lifestyle changes.
- Partnerships with larger wellness programs in the community (e.g., YMCAs, hospitals, health centers) when your business is too small to support its own services.

### HEART AND STROKE PREVENTION MESSAGES

- Know/control your blood pressure and cholesterol levels.
- Stop smoking, be active, and eat nine servings of fruits and vegetables a day.
- Recognize the signs and symptoms of a heart attack and stroke.
- Call 9-1-1 when someone is experiencing a heart attack or stroke.

*“We found a decrease in medical expenses of about \$224 per employee per year (averaged over 4 years) and this improved over time. We found most benefits in years 3 and 4 after program initiation.”*

Jennifer Bruno  
Director, Health and Wellness Business Planning  
Johnson & Johnson

# Promising Practices\*

Many businesses can achieve savings by implementing worksite health promotion and management programs. The six businesses in the chart below are examples of promising practices for heart disease and stroke prevention in worksites. Their experiences show that these programs are good for business.<sup>14</sup>

	INTERVENTION HIGHLIGHTS	HEALTH OUTCOMES	ROI OR COST SAVINGS	TYPE OF EVALUATION
<b>SMALL BUSINESS</b>				
<b>Highsmith Co.</b> Fort Atkinson, WI  Catalog-based distributor of school and library supplies  225 participating employees	<b>Learning and Development Wellness Program†</b>  <b>Special feature:</b> Health insurance premium incentive	<ul style="list-style-type: none"><li>• 53% decrease in number of participating employees whose total cholesterol was “high risk”</li><li>• 52% decrease in number of participating employees whose blood pressure was “high”</li></ul>	<ul style="list-style-type: none"><li>• From 2002-2004, health care premiums have risen by an average of only 4.9%, vs. the national average increase of 12.7%</li><li>• Decreased turnover, participating employees’ compensation costs</li></ul>	<ul style="list-style-type: none"><li>• Intervention group, pre- and post-evaluation‡</li><li>• Evaluation by external vendor</li></ul>
<b>MEDIUM-SIZE BUSINESS</b>				
<b>Fieldale Farms</b> Baldwin, GA  Poultry processor  4,600 participating employees	<b>Fieldale Farms Wellness Program†</b>  <b>Special feature:</b> Mobile screening and follow-up; gift card for individuals participating in screening	<ul style="list-style-type: none"><li>• 26% of participating employees with high blood pressure normalized their blood pressure levels</li><li>• 26% of participating employees with high cholesterol normalized their cholesterol levels</li></ul>	<ul style="list-style-type: none"><li>• In 2004, health care costs per participating employee per year were \$3,052 vs. \$6,900, the national average health care cost for manufacturing employees</li></ul>	<ul style="list-style-type: none"><li>• Intervention group, pre- and post-evaluation over a 5-year period§</li><li>• Evaluation by in-house staff</li></ul>
<b>LARGE BUSINESS</b>				
<b>LL Bean</b> Freeport, ME  Direct marketer of clothing and outdoor gear  9,000 participating employees	<b>Healthy Bean Program†</b>  <b>Special feature:</b> Subsidized fruit and salad bars in cafeterias	<ul style="list-style-type: none"><li>• Lower percentage of participating employees with high blood pressure and cholesterol than state and national averages</li></ul>	<ul style="list-style-type: none"><li>• Decrease in smoking rates associated with lower health claim costs</li></ul>	<ul style="list-style-type: none"><li>• Intervention group, pre- and post-evaluation, every 2-3 years§</li><li>• Evaluation by in-house staff; analysis by external vendor</li></ul>
<b>Duke University</b> <sup>15</sup> Durham, NC  Higher education institution  24,500 participating employees	<b>Live for Life Pathways to Change Program†</b>  <b>Special feature:</b> Pathways to Change: in-person and telephone-based personal health counseling	<ul style="list-style-type: none"><li>• 89% success rate in controlling blood pressure of participating employees</li><li>• 85% success rate in controlling cholesterol of participating employees</li></ul>	<ul style="list-style-type: none"><li>• Blood pressure program ROI of \$1.21 to \$1.00</li><li>• Cholesterol program ROI of \$3.39 to \$1.00</li></ul>	<ul style="list-style-type: none"><li>• Intervention group, pre- and post-evaluation, 9-12 months§</li><li>• Evaluation by external vendor</li></ul>
<b>Johnson &amp; Johnson</b> <sup>16</sup> Headquarters: New Brunswick, NJ  Manufacturer of health care products  106,000 participating employees	<b>Health and Wellness Program†</b>  <b>Special feature:</b> \$500 premium incentive for completing health risk assessments	<ul style="list-style-type: none"><li>• 3% decrease in the number of participating employees with high blood pressure</li><li>• 9% decrease in number of participating employees with high cholesterol levels</li></ul>	<ul style="list-style-type: none"><li>• Medical expenses decreased by about \$225 per participating employee per year during 4 years</li><li>• Decreased absenteeism</li></ul>	<ul style="list-style-type: none"><li>• Intervention group, pre- and post-evaluation, over a 2.75 year period§</li><li>• Evaluation by external vendor</li></ul>
<b>General Motors</b> <sup>17</sup> Headquarters: Detroit, MI  Automotive manufacturer  165,000 participating employees	<b>LifeSteps Program†</b>  <b>Special feature:</b> Lifestyle coaching to help reduce risk factors for members at high risk	<ul style="list-style-type: none"><li>• 22% decrease in number of participating employees who have high blood pressure</li><li>• 5% decrease in number of participating employees who have high cholesterol</li></ul>	<ul style="list-style-type: none"><li>• ROI of \$3.00 to \$1.00</li></ul>	<ul style="list-style-type: none"><li>• Intervention group and control/comparison group, over a 6 year period§</li><li>• Evaluation by external vendor</li></ul>

\* “Promising Practice” is an innovative worksite program that has field-based data showing positive outcomes for preventing heart disease and stroke and related risk factors, such as high blood pressure, but that may not yet have been studied under controlled research to allow for generalizable results.

† Health and wellness program includes a combination of the following policy, environmental, and educational components: health risk assessments, health screenings, referrals for high-risk employees, risk factor counseling, newsletters, health fairs, health education classes and messages, smoke-free policies, access to heart-healthy foods and beverages, places to exercise, and incentives.

‡ Different group of people in pre- and post-evaluation.

§ Same group of people in pre- and post-evaluation.





## 5. Work with your health plan

*“Worksites have the right and responsibility to negotiate a health benefits plan that meets the needs of their employees.”*

Pamela Southers Wilson, RD/LD  
Cardiovascular Health Director, Georgia Division of Public Health

In contracting with health plans, employers should ensure that coverage of essential preventive benefits and coordination of quality care for heart disease and stroke prevention are included.

Determine if your health plan supports or endorses the use of the following interventions that can contribute to successful outcomes.<sup>21, 26, 27, 28</sup>

- **Cardiovascular risk identification.** Routine screening and health risk assessments, chart reviews, analysis of claims data to identify those at risk for heart disease and stroke.
- **Cardiovascular health and risk reduction programs.** Specialized disease management treatment and prevention clinics for employees who have been diagnosed with or are at increased risk for heart disease or stroke. Quality care should include routine screenings, assessment, and sustained counseling and follow-up telephone calls for risk factor control.
- **National guidelines.** Health care providers, clinical care teams, and clinics that provide standardized treatment, prevention, and rehabilitation services that are consistent with national guidelines for heart disease and stroke prevention.
- **Health care quality assurance systems.** Multidisciplinary clinical care teams and other support mechanisms and tools such as electronic medical records, automatic prescription systems, and paper or electronic reminders to encourage member adherence and provider compliance with national prevention guidelines.
- **Strategies to eliminate cardiovascular disease disparities.** Culturally and linguistically competent educational materials, newsletters, and programs tailored to different groups who are at increased risk for cardiovascular disease.
- **Patient satisfaction and compliance.** Annual member surveys to determine satisfaction and compliance with cardiovascular health and risk reduction programs and services.
- **Outcomes and cost savings.** Annual reporting of improvement in cardiovascular health indicators, such as blood pressure and cholesterol control; annual reporting of cost savings over time as a result of cardiovascular health and risk factors control programs.

### A Plan for Action with Health Plans

1. Identify and assist those with highest risk for heart disease using evidence-based guidelines. Ask your health plan or other vendor for your pharmacy, lab, and medical claims data, or you can get an outside consultant to help you with this step.
2. Determine what services and benefits your health plan already provides to address these diseases, conditions and risk factors.
3. Conduct a needs assessment with your employees to decide what additional services and health plan benefits are needed.
4. Negotiate a health benefits package that will meet the needs of your employees and contribute to successful health outcomes.
5. Evaluate the impact of these interventions and health benefits on health outcomes and cost reductions over time.



## 6. Establish partnerships

Improving and sustaining cardiovascular health requires a coordinated effort among many organizations, as shown in the diagram below.<sup>27</sup> Learn from other employers' successes, and access resources and materials that are already available. Contact and develop a partnership with your state or local heart disease and stroke prevention programs or contact your health department for help and resources (CDC can provide information on state contacts). Many websites offer free information and links to local and national low cost resources as well. Here are just a few...

- **CENTERS FOR DISEASE CONTROL AND PREVENTION, DIVISION FOR HEART DISEASE AND STROKE PREVENTION** .....[WWW.CDC.GOV/CVH](http://WWW.CDC.GOV/CVH)
- **AMERICAN DIABETES ASSOCIATION** .....[WWW.DIABETES.ORG](http://WWW.DIABETES.ORG)
- **AMERICAN HEART ASSOCIATION** .....[WWW.AMERICANHEART.ORG](http://WWW.AMERICANHEART.ORG)
- **AMERICAN STROKE ASSOCIATION** .....[WWW.STROKEASSOCIATION.ORG](http://WWW.STROKEASSOCIATION.ORG)
- **NATIONAL BUSINESS COALITION ON HEALTH**.....[WWW.NBCH.ORG](http://WWW.NBCH.ORG)
- **NATIONAL BUSINESS GROUP ON HEALTH**.....[WWW.WBGH.ORG](http://WWW.WBGH.ORG)
- **WELLNESS COUNCILS OF AMERICA** .....[WWW.WELCOA.ORG](http://WWW.WELCOA.ORG)
- **PARTNERSHIP FOR A HEALTHY WORKFORCE** .....[WWW.PREVENT.ORG/PHW.HTM](http://WWW.PREVENT.ORG/PHW.HTM)

**Bring partners to your efforts that can strengthen a cardiovascular health program**



*“If worksites focus their financial resources on identifying and helping individuals at high risk for heart disease and stroke, their medical care costs will come down and they will be able to pay for everything else.”*

Jon Allen  
Vice President Human  
Resources and Benefits  
Fieldale Farms



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